

Clean Copy of Claims 1-20

Claim 1. (currently amended) A method for generating or increasing resistance of a plant to at least one pathogen comprising:

transforming a collection of plant cells with a transgenic protein that possesses a sucrose isomerase activity; and

selecting a plant cell from the transformed collection that generates or shows increased resistance, as compared to the untransformed plant cell, to the at least one pathogen.

Claim 2. (currently amended) The method of claim 1, wherein the sucrose isomerase activity is derived from:

- i) a protein containing the sequence of SEQ ID NO: 2, 6, 8, 10, 12, 14, 16, 18 or 36;
- ii) a functional equivalent to said protein; or
- iii) a fragment of said protein or said functional equivalent.

Claim 3. (currently amended) The method of claim 1, wherein expression of the sucrose isomerase activity is ensured by a transgenic expression cassette comprising at least one nucleic acid sequence selected from the group consisting of:

- a) nucleic acid sequences encoding the amino acid sequence of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 or 36;
- b) nucleic acid sequences encoding proteins with at least 40% homology with the sequence of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 or 36;
- c) nucleic acid sequences that contain the sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35;
- d) nucleic acid sequences which is degenerated to a nucleic acid sequence of c);

e) nucleic acid sequences with at least 40% homology with the nucleic acid sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35; and

f) nucleic acid sequences that hybridize with a complementary strand of the nucleic acid sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35.

Claim 4. (currently amended) The method of claim 1, wherein the sucrose isomerase activity is expressed under the control of a pathogen-inducible promoter which is functional in plants.

Claim 5. (currently amended) The method of claim 1, wherein the pathogen is selected from the group consisting of fungi and nematodes.

Claim 6. (currently amended) The method of claim 5, wherein the fungi is selected from the group consisting of Plasmodiophoromycota, Oomycota, Ascomycota, Chytridiomycetes, Zygomycetes, Basidiomycota and Deuteromycetes.

Claim 7. (currently amended) The method of claim 1, wherein the plant is selected from the group consisting of potato, beet, sugar beet, tomato, banana, carrot, sugar cane, strawberry, pineapple, paw paw, soybean, oats, barley, wheat, rye, triticale, sorghum and millet, and maize.

Claim 8. (currently amended) A transgenic expression cassette comprising a nucleic acid sequence that encodes a sucrose isomerase, which is in functional linkage with a pathogen-inducible promoter that is functional in plants.

Claim 9. (currently amended) The transgenic expression cassette of claim 8, wherein the sucrose isomerase is a protein containing the sequence of SEQ ID NO: 2, 6,

8, 10, 12, 14, 16, 18 or 36; a functional equivalent of said protein; or a fragment of said protein or said functional equivalent.

Claim 10. (currently amended) The transgenic expression cassette of claim 8, wherein the pathogen-inducible promoter contains a sequence selected from the group consisting of the sequences of SEQ ID NO: 23, 24, 32, 33 and 34.

Claim 11. (currently amended) A transgenic expression vector comprising the transgenic expression cassette of claim 8.

Claim 12. (currently amended) A transgenic organism comprising the transgenic expression cassette of claim 8.

Claim 13. (currently amended) The transgenic organism of claim 12, which is a plant selected from the group consisting of potato, beet, sugar beet, tomato, banana, carrot, sugar cane, strawberry, pineapple, paw paw, soybean, oats, barley, wheat, rye, triticale, sorghum and millet, and maize.

Claim 14. (currently amended) A transgenic crop product, propagation material, cells, organs, parts, calli, cell cultures, seeds, tubers, sets or transgenic progeny of the transgenic organism of claim 12.

Claim 15. (currently amended) A method for the production of palatinose comprising the transgenic organism of claim 12.

Claim 16. (new) The transgenic expression cassette of claim 8, wherein the sucrose isomerase is derived from a transgenic expression cassette comprising at least one nucleic acid sequence selected from the group consisting of:

- a) nucleic acid sequences encoding the amino acid sequence of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 or 36;
- b) nucleic acid sequences encoding proteins with at least 40% homology with the sequence of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 or 36;
- c) nucleic acid sequences that contain the sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35;
- d) nucleic acid sequences which is degenerated to a nucleic acid sequence of c);
- e) nucleic acid sequences with at least 40% homology with the nucleic acid sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35; and
- f) nucleic acid sequences that hybridize with a complementary strand of the nucleic acid sequence of SEQ ID No: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 or 35.

Claim 17. (new) A transgenic organism comprising the transgenic expression vector of claim 11.

Claim 18. (new) A method for the production of palatinose comprising the transgenic crop products, propagation material, cells, organs, parts, calli, cell cultures, seeds, tubers, sets or transgenic progeny of claim 14.

Claim 19. (new) A method for increasing resistance of a plant to at least one pathogen comprising expressing a transgenic protein in said plant, wherein the transgenic protein possesses a sucrose isomerase activity that provides increased resistance, as compared to an unexpressing plant, to the at least one pathogen.

Claim 20. (new) The method of claim 19, wherein the transgenic protein is a protein containing the sequence of SEQ ID NO: 2, 6, 8, 10, 12, 14, 16, 18 or 36; is a

functional equivalent of said protein; or is a fragment of said protein or said functional equivalent.